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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/678,025

10/04/2000

Toru Koizumi

35.C14850

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10/18/2005

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NEW YORK, NY 10112

EXAMINER

KAO, CHIH CHENG G

ART UNIT

PAPER NUMBER

2882

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/678,025

Applicant(s)

KOIZUMI, TORU

Examiner

Chih-Cheng Glen Kao

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,9-15 and 17-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,9-15 and 17-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings were received on 9/22/05. These drawings are acceptable.

Claim Objections

2. Claims 2, 10, 14, 17, 18, 20, and 23-25 are objected to because of the following informalities, which appear to be minor draft errors including grammatical and lack of antecedent basis problems.

In the following format (location of objection; suggestion for correction), the following corrections may obviate their respective objections: (claim 2, last line, "common line in"; inserting a comma after "line"), (claim 10, line 2, "said unit cells"; replacing "said" with - -the- -), (claim 14, lines 2-3, "the selection control line"; replacing "the" with - -a- -), (claim 14, line 3, "the transfer control line"; replacing "the" with - -a- -), (claim 17, line 8, "means wherein"; inserting a comma before "wherein"), (claim 18, line 2, "said unit cells"; replacing "said" with - -the- -), (claim 20, line 2, "said photoelectric"; replacing "said" with - -the- -), (claim 23, line 1, "according to claim 20", replacing "20" with - -22- -), (claim 23, line 2, "said unit cells"; replacing "said" with - -the- -), (claim 24, line 1, "according to claim 21"; replacing "21" with - -22- -), (claim 25, line 1, "according to claim 20"; replacing "20" with - -22- -), and (claim 25, line 2, "said photoelectric"; replacing "said" with - -the- -).

For purposes of examination, the claims have been treated as such. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 22-26 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 22 in particular, the specification does not enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use a device having a signal output line and a selection control line together as a common line. It is not clear how one would sequence the controls to insure that the signal is selected appropriately, transferred completely, resetted appropriately, and outputted completely, without losing the signal or transferring an unwanted signal. This would require undue experimentation to figure out the correct timing sequence and connections among unit cells for multiple controls lines. In other words, the original specification is not enabled for a voltage applying means, connected to the signal output line, for giving a control pulse to the selecting means. The original specification is not enabled for a signal output line and a selection control line as a common line.

4. Claims 2, 10-12, 14, 15, and 17-21 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: a selecting means for selecting an amplifying means and outputting an amplified signal amplified signal to a signal output line.

A selecting means is considered essential, since it is needed to allow a signal to be amplified and outputted. The signal would not be able to be outputted without a selecting means.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 2, 9, 10, 13, 15, 17, 18, 20, 22, 23, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (US Patent 5955753).

2. Regarding claims 2, 17, and 22, Takahashi discloses a solid-state image pickup device (fig. 1) comprising at least one unit cell having a photoelectric conversion portion (fig. 1, #1) which generates a signal, an amplifying means (fig. 1, #5) for amplifying the signal generated in the photoelectric conversion portion, a transfer means (fig. 1, #3) for transferring the signal to said amplifying means, a reset means (fig. 1, #4) for resetting an input terminal of said amplifying means, wherein the amplifying means (fig. 1, #5) outputs the amplified signal to a signal output line (fig. 1, line connected to #6 and 7), selecting means (fig. 1, #6) for selecting

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said amplifying means to output the amplified signal to the signal output line (fig. 1, line from #6 to #7), a voltage applying means (fig. 1, ϕR_0 , ϕTX_0 , or ϕS_0), connected to the signal output line (fig. 1, line connected to #6 and 7), for giving a control pulse to the reset, transfer, or selecting means (fig. 1, #4, 3, or 6), wherein the signal output line for outputting the amplified signal and a reset, transfer, or selecting control line (fig. 1, ϕR_0 , ϕTX_0 , or ϕS_0) for controlling said reset, transfer, or selecting means are a common line, in said unit cell or between two adjoining unit cells (fig. 1, lines from #6 to #7 and ϕR_0 , ϕTX_0 , or ϕS_0 between adjoining unit cells).

3. Regarding claim 9, Takahashi further discloses selecting means (fig. 1, #6) for selecting said amplifying means to output the amplified signal to the signal output line (fig. 1, line from #6 to #7), wherein during a period in which said selecting means are turned on, a noise signal and an optical signal are read out from the signal output line (col. 4, line 67).

4. Regarding claims 10, 18, and 23, Takahashi further discloses a plurality of the unit cells arranged in a two-dimensional matrix (fig. 1).

5. Regarding claim 13, Takahashi further discloses wherein the photoelectric conversion portion, amplifying means, transfer means, reset means, and selecting means are all of the same conductivity type (fig. 1).

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6. Regarding claims 15, 20, and 25, Takahashi further discloses wherein a plurality of photoelectric conversions portions (fig. 2) are connected to a common amplifying means (fig. 2, #5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 11, 12, 19, 21, 24, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi as applied to claims 2, 10, 17, and 22 above, and further in view of Yonemoto (US Patent 5894325).

8. Regarding claims 11, 19, and 24, Takahashi discloses a device as recited above.

However, Takahashi does not disclose a power line between two unit cells.

Yonemoto teaches a power line between two unit cells (fig. 1, #14).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Takahashi with the power line of Yonemoto, since one would be motivated to make such a modification for powering all cells from just one source, which makes a device more compact (fig. 1) as implied from Yonemoto.

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9. Regarding claims 12, 21, and 26, Takahashi discloses a device as recited above.

However, Takahashi does not disclose an image pickup system comprising a pickup device, optical system, and signal processing circuit.

Yonemoto teaches an image pickup system (fig. 9) comprising a pickup device (fig. 9, #91), an optical system (fig. 9, #92), and a signal processing circuit (fig. 9, #97).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Takahashi with the image pickup system of Yonemoto, since one would be motivated make such a modification to better capture signals in a video (col. 8, lines 40-41) as implied from Yonemoto.

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi as applied to claim 2 above, and further in view of Gowda et al. (US Patent 5898168).

Takahashi discloses a device as recited above.

However, Takahashi does not disclose a common line functioning as a selection and transfer control line.

Gowda et al. teaches a common line functioning as a selection and transfer control line (fig. 3b, #22 and RSL_i, and col. 4, lines 20-28).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the device of Takahashi with the common line functioning as a selection and transfer control line of Gowda et al., since one would be motivated to make such a modification to eliminate the separate selection line (col. 4, lines 20-28) as implied from Gowda et al. for a more compact device.

Response to Arguments

11. Applicant's arguments with respect to claims 2, 9-15, and 17-26 have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments filed 9/22/05 have been fully considered but they are not persuasive.

Regarding 35 USC § 112 rejections, Applicant argues that the amendment overcomes the enablement issues brought up in the previous Office Action mailed 6/17/05. The Examiner disagrees. Regarding claim 22 in particular, a voltage applying means, connected to the signal output line, for giving a control pulse to selecting means is not enabled by the original specification. In other words, the specification is not enabled for the signal output line and the selection control line as a common line.

Regarding prior art rejections and in response to Applicant's argument that the references fail to show certain features of Applicant's invention, it is noted that the features upon which Applicant appears to rely (i.e., voltage applying means, directly connected) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

In conclusion, Applicant's arguments are not persuasive, and the claims are still rejected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

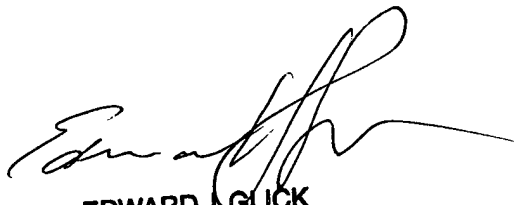
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

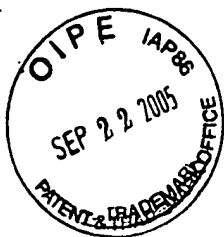
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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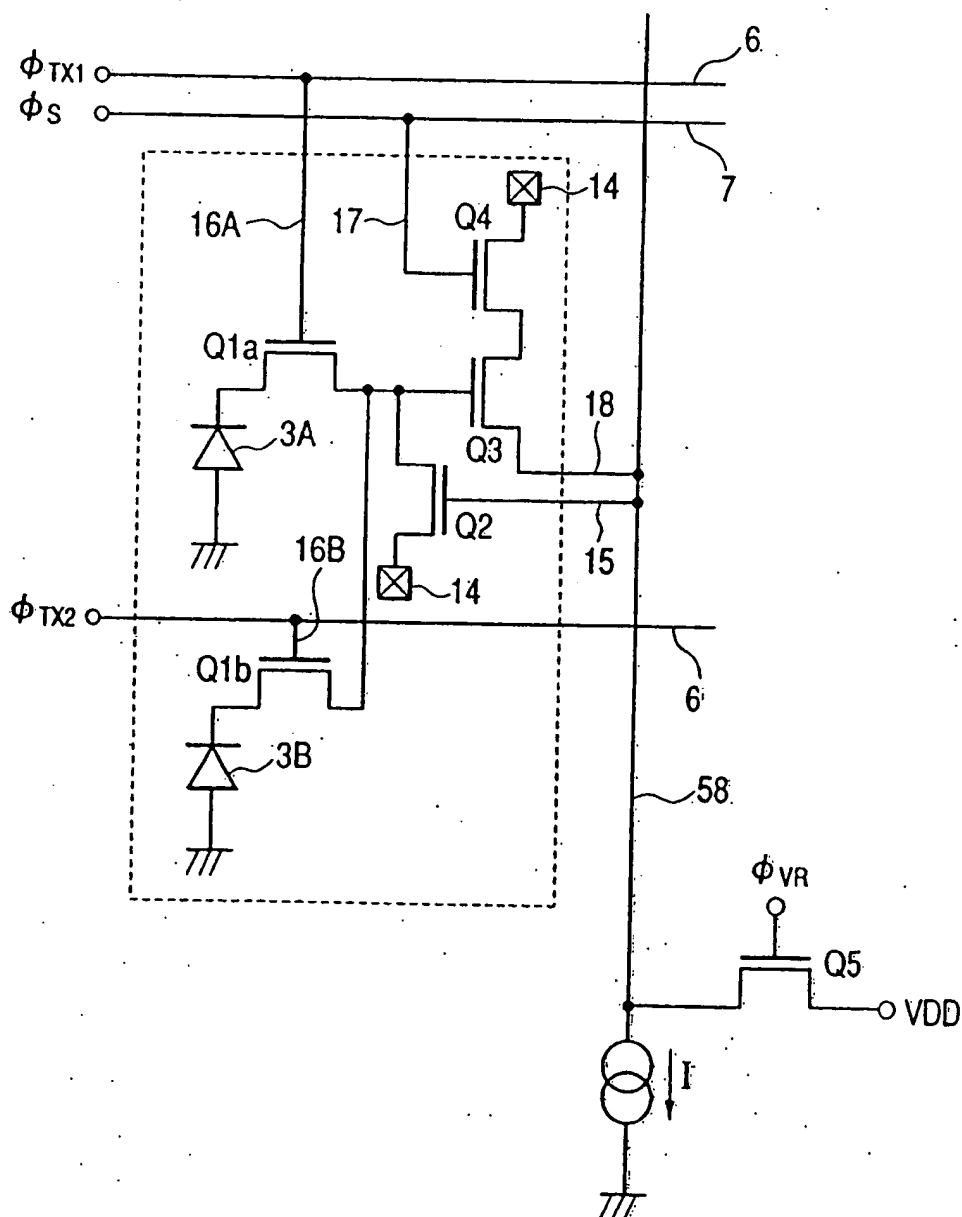


EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER



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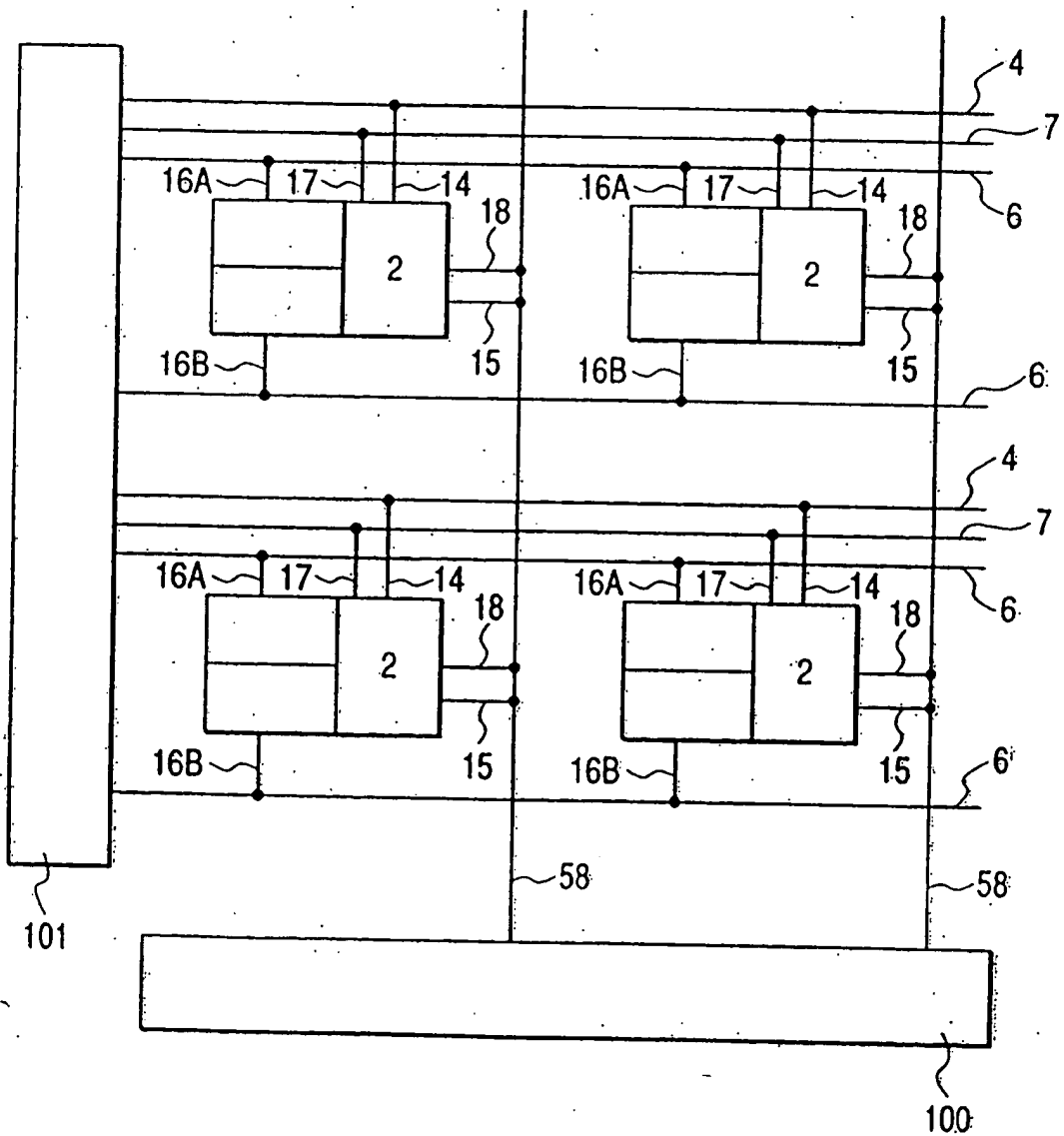
FIG. 21



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FIG. 23



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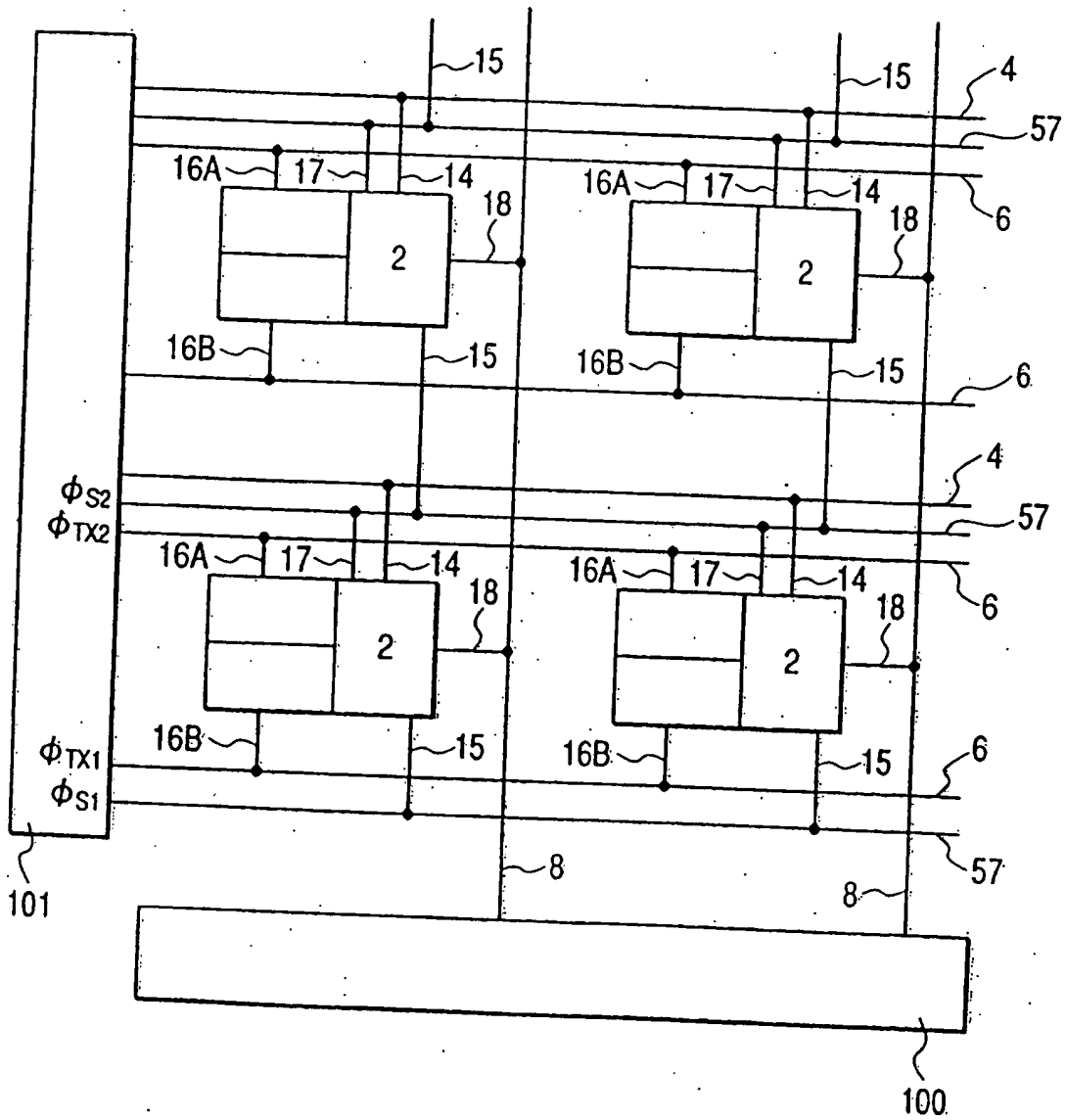


The diagram illustrates a complex semiconductor circuit. On the left, four vertical columns represent different stages or components, labeled 16A through 16D at their bases. Each column contains a series of transistors and diodes connected to ground symbols (represented by three parallel slanted lines).
 - Column 16A: Contains transistor Q1a, diode 3A, and transistor Q3.
 - Column 16B: Contains transistor Q1b, diode 3B, and transistor Q2.
 - Column 16C: Contains transistor Q1c, diode 3C, and transistor Q4.
 - Column 16D: Contains transistor Q1d, diode 3D, and transistor Q2.
 A dashed rectangular box encloses the central portion of the circuit, specifically the area containing transistors Q2, Q3, and Q4, along with diodes 3A and 3B. This boxed area is associated with label 17.
 To the right of the main structure, there are two square boxes with an 'X' inside, each labeled 14. These are connected to various nodes in the circuit. One node is labeled 18, and another is labeled 15.
 The circuit is divided into several horizontal sections by lines representing interconnect layers, some labeled 6 and others 7. A large section on the right is labeled 58.
 At the bottom right, there is a biasing circuit. It includes a PMOS transistor Q5 whose gate is connected to a terminal labeled ϕ_{VR} and its source is connected to a terminal labeled VDD. The drain of Q5 is connected to a current source symbol (two overlapping circles with a downward arrow labeled I) which is connected to ground. Another layer labeled 6 is shown below this section.

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FIG. 25



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